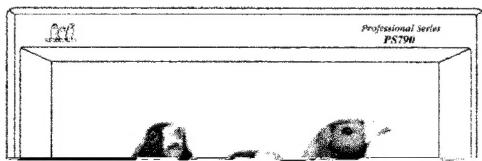


ViewSonic®

PS790

Color Monitor



User's Guide

Guide de l'utilisateur

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As an ENERGY STAR[®] partner, ViewSonic Corp. has determined that this product meets the ENERGY STAR[®] guidelines for energy efficiency

Electronic Warranty Registration

Register your monitor at www.viewsonic.com. It's fast, easy, and will simplify future support needs.

For Your Records

The serial number of this product is on the back of the monitor. You should note the serial number of this unit in the space provided and retain this booklet as a permanent record of your purchase to aid in identification in the event of theft or loss.

Product Name : ViewSonic PS790

Model Number : VCDTS21476-1M

Serial Number : _____

Purchase Date : _____

Power Cord Safety Guidelines

Caution : Use a power cable that is properly grounded. Always use the AC cords listed below for each area :

USA UL

Canada CSA

Germany VDE

Switzerland SEV

Britain BASEC / BS

Japan Electric Appliance Control Act

In other areas, use AC cord which meets local safety standards.

Power Cord Safety Guidelines (continued)

AC PLUG CORD PRECAUTIONS FOR THE UNITED KINGDOM

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET THEN THE PLUG SHOULD BE CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRIC SHOCK IF THE CUT OFF PLUG IS INSERTED INTO AN APPROPRIATE SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.

If in any doubt, please consult a qualified electrician.

WARNING: THIS APPLIANCE MUST BE EARTCHED.

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code:

Green-and-Yellow:	Earth
Blue:	Neutral
Brown:	Live

If the coloured wires of the mains lead of this appliance do not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E, by the Earth symbol  or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

IMPORTANT NOTICE CONCERNING POWER CORD SELECTION

The power cord set for this unit has been enclosed and has been selected according to the country of destination and must be used to prevent electric shock. Use the following guidelines if it is necessary to replace the original cord set, or if the cord set is not enclosed.

The female receptacle of the cord set must meet CEE-22 requirements and will look like Figure 1 :

Figure 1



For the United States and Canada

In the United States and Canada the male plug is a NEMA5-15 style (Figure 2), UL listed and CSA labelled. For units which are mounted on a desk or table, type SVT or SJT cord sets may be used. For units which sit on the floor, only SJT type cord sets may be used. The cord set must be selected according to the current rating for your unit. Please consult Table A below for the selection criteria for power cords used in the United States and Canada.

Figure 2



For European Countries

In Europe you must use a cord set which is appropriate for the receptacles in your country. The cord set is HAR-Certified, and a special mark that will appear on the outer sheath, or on the insulation of one of the inner conductors.

If you have any questions concerning the proper power cord to use, please consult the dealer from whom you have purchased your monitor.

Table A

Cord Type	Size of Conductors In Cord	Maximum Current Rating of Unit
SJT	18AWG	10Amps
	16AWG	12Amps
	14AWG	12Amps
SVT	18AWG	10Amps
	17AWG	12Amps

FCC Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

FCC Warning:

To assure continued FCC compliance, the user must use grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. If a BNC cable is going to be used, use only shielded BNC (5) cable. Also, any unauthorized changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

Power Supply Cord for USA

For units with 100 - 120 V input voltage in the USA, use the following :

UL Listed and CSA Certified Type SVT or SJT No. 18 / 3 AWG rated 125 Vac 7 A min.

One end terminated in a molded on parallel blade, grounding attachment cap or hooded attachment cap (15 A, 125 V configuration), the other end terminated in a mold-on appliance coupler.

Notice for Germany

"Die in diesem Gerät entstehende Röntgenstrahlung ist ausreichend abgeschirmt.
Beschleunigungsspannung maximal 27,5 kV" Aus ergonomischen Gründen wird empfohlen, die Grundfarbe Blau nicht auf dunklem Untergrund zu verwenden (schlechte Erkennbarkeit, Augenbelastung bei zu geringem Zeichenkontrast wäre die Folge).

Notice for Japan

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

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* To meet your future needs, and to receive any additional product information as it becomes available, please register your monitor's warranty on the Internet at; <http://www.viewsonic.com>.

Getting Started

Congratulations on your purchase of a Professional Series **ViewSonic PS790** monitor! **Important:** Save the original box and all packing material for future shipping needs.

NOTE: This product was designed for operating in the region where it was purchased. Also, the word "Windows®" in this user guide refers to the following Microsoft® operating systems: Windows 95, Windows 98, Windows NT.

Package Contents

Your **ViewSonic PS790** package includes the following:

- **ViewSonic PS790** monitor
- Video cable with 15 pin high density mini D-sub connector
- Power cord
- User's Guide
- INF installation file on diskette or CD-ROM.

Precautions

- For the best viewing conditions, sit at least 18" from the monitor.
- AVOID TOUCHING THE SCREEN WITH YOUR FINGERS. Oils from the skin are difficult to remove.
- NEVER REMOVE THE REAR COVER. The monitor contains high-voltage parts. You may suffer serious injury if you touch these parts.
- Avoid exposing the monitor to direct sunlight or another heat source. The monitor should be facing away from direct sunlight to reduce glare.
- Choose a well ventilated area to position your monitor. Do not place anything on the monitor that prevents adequate dissipation of heat.
- Ensure the area around the monitor is clean and free of moisture.
- Keep the monitor away from magnets, motors, transformers, speakers, and televisions.
- Do not place heavy objects on the monitor, video cable, or power cord.
- If smoke, abnormal noise, or strange odor is present, immediately switch the monitor off and call your dealer or ViewSonic. It is dangerous to continue using the monitor.
- Always handle your monitor with care when moving it.

Quick Installation

- 1 Write the serial number on the back of the monitor in the space provided on page 1 labeled ***“For your records”*** and register your monitor's warranty on the Internet at <http://www.viewsonic.com>.
- 2 Read the Precautions section thoroughly before installing the monitor.
Make sure the computer and the monitor are both turned off before connecting any cables.
- 3a ***PC users:*** Attach the Video Cable to a Video Input port on the monitor (see below). Then connect the other end to your computer.

~~• Monitor and computer require a ViewSonic®~~

Operation

Changes are automatically saved when [1] is pressed.

OnView® Controls



Changes are automatically saved when [1] is pressed.



Geometry: Press button [2] to select one of the following controls to adjust.

- Vertical Pincushion** straightens vertical sides of the screen. [▼] curves vertical edges inward, [▲] curves vertical edges outward.
- Side Pincushion Balance** curves the screen's vertical edges to the left or right. [▼] curves vertical edges to the left, [▲] curves vertical edges to the right.
- Trapezoid** makes vertical edges of the screen image parallel. [▼] narrows top and widens bottom, [▲] widens top and narrows bottom.
- Parallelogram** slants vertical edges of the screen to the left or right. [▼] slants vertical edges to the left, [▲] slants vertical edges to the right.

Advanced Geometry: Press button [2] to select one of the following controls to adjust.

- Top Hooking** Smoothes hook-shaped distortion along the top corners of the screen image.
- Bottom Hook** Smoothes hook-shaped distortion along the bottom corners of the screen image.
- S1** **Hourglass** Allows further straightening of the vertical sides of the screen. *ADVANCED USERS ONLY*.
- S2** **Hourglass Bal** Allows further straightening of the vertical sides of the screen. *ADVANCED USERS ONLY*.



Tilt: rotates entire screen image. [▼] rotates screen counter-clockwise, [▲] rotates screen clockwise.

NOTE: Pressing the [▼] and [▲] buttons simultaneously adjusts rotation to its factory preset level.



ViewMatch® Color: adjusts the color temperature.

- 1) Use the [▼] and [▲] buttons to select 1: 9300K, 2: 7500K, 3: 6500K, 4: 5000K, or 5: User Color.
- 2) If you select 5: User Color, press button [2] to display the USER COLOR adjustment screen.

...continued

User Color Level: adjusts the color intensity of individual colors. [\blacktriangle] increases the amount of color in the image, [\blacktriangledown] decreases the amount of color in the image.

NOTE: Press button [2] to select the red, green, or blue control.



ViewMeter® / Degauss:

 **ViewMeter** displays the frequency signal input (horizontal scan and refresh rate) coming from the graphics card in your computer. *See your video card's user guide for more details.*

(Input selection) : To switch between a computer connected to the D-Sub port (A) and a computer connected to the BNC ports (B), press [\blacktriangledown] or [\blacktriangle].



Degauss removes the build-up of magnetic fields that can affect color purity and convergence. Press the [2] button to degauss.



Memory Recall: If the monitor is operating in a factory preset timing mode (see page 13), this control will reset the image to the factory preset size, position and geometry settings. If the monitor is operating in a user defined mode, this control has no effect.



Video Input Signal Level: Changes the video input signal level to match the computer's signal level.



Moire Reduction: Press button [2] to toggle between Horizontal and Vertical Moire controls.



Horizontal Moire adjusts horizontal lines caused by interference between the phosphor dot pitch and scanning line pitch. [\blacktriangle] increases the amount of adjustment, [\blacktriangledown] decreases the amount of adjustment.

CAUTION: Over-correction of moire can affect the picture quality.



Vertical Moire adjusts vertical lines caused by interference between the phosphor dot pitch and video pattern. [\blacktriangle] increases the amount of adjustment, [\blacktriangledown] decreases the amount of adjustment.

CAUTION: Over-correction of moire can affect the picture quality.

...continued



Convergence: Press [2] button to toggle between Horizontal Convergence and Vertical Convergence controls. Convergence is affected by geomagnetism. Use this function when convergence error occurs after moving the monitor or changing the screen angle.

These convergence adjustments should be made after monitor operation has stabilized.



Horizontal Convergence Horizontal convergence of the image (color fringing) can be adjusted.

NOTE: If the [▼] and [▲] buttons are pressed at the same time on the H. Convergence adjustment screen, the standard level (50) will be set. Press the [▲] button to move red to the right and blue to the left. Press the [▼] button to move red to the left and blue to the right.



Vertical Convergence Vertical convergence of the image (color fringing) can be adjusted.

NOTE: If the [▼] and [▲] buttons are pressed at the same time on the V. Convergence adjustment screen, the standard level (50) will be set. Press the [▲] button to move red downwards and blue upwards. Press the [▼] button to move red upwards and blue downwards.



Linearity Center / Edge: Press [2] button to toggle between Linearity Center and Linearity Edge controls.



Linearity Center: The image can be adjusted for vertical linearity in the center.

NOTE: If the [▼] and [▲] buttons are pressed at the same time on the Linearity - C adjustment screen, the standard level will be set. Press the [▲] button to make the center linearity narrower. Press the [▼] button to make the center linearity wider.



Linearity Edge: The image can be adjusted for vertical linearity in the edge.

NOTE: If the [▼] and [▲] buttons are pressed at the same time on the Linearity - E adjustment screen, the standard level will be set. Press the [▲] button to make the bottom linearity wider. Press the [▼] button to make the top linearity wider.

...continued

Changes are automatically saved when [1] is pressed.

?  **OSD Language / Position:**

?  **Language Selection:** Allows the user to choose the language in which the control names are displayed.

 **OSD Position:** Press the [2] button to re-position the OSD.

Self-Test: When there is no signal input (because the cable is not connected or no video signal is coming from the computer), or the monitor is in power saving mode, the self-test screen can be called by pressing the [1], [\blacktriangledown], [\blacktriangle], or [2] button. An error message screen appears when the horizontal or vertical sync signal is outside of the permitted range.

Other Information

Specifications

CRT	Type	19" (18.0" viewable diagonal), 0.25 mm Dot Pitch, 100° deflection
	Glass Surface	SuperClear™, ARAG® (anti-reflection, anti-glare)
Input Signal	Video	RGB Analog, HV Separated (TTL), Composite, Sync-on-green,
	Sync	$f_H: 30 - 97$ kHz, $f_V: 50 - 180$ Hz
Compatibility	PC	Up to $1,600 \times 1,280$ NI ^{*3}
	Macintosh® ^{*1}	Power Macintosh®, up to $1,600 \times 1,200$
Maximum Refresh Rates^{*2}		$1,600 \times 1,280$ NI @ 72 Hz $1,024 \times 768$ NI @ 120 Hz $1,600 \times 1,200$ NI @ 76 Hz 800×600 NI @ 153 Hz $1,280 \times 1,024$ NI @ 90 Hz 640×480 NI @ 180 Hz $1,152 \times 870$ NI @ 106 Hz 640×400 NI @ 180 Hz
Power	Voltage	100 - 240 VAC 50 / 60 Hz
Display Area	Default	352 mm (H) \times 264 mm (V) (Typical)
	Full Scan	365 mm (H) \times 274 mm (V) (Depends on signal timing)
Operating Conditions	Temperature	41 °F to 95 °F (5 °C to 35 °C)
	Humidity	5% to 90% (no condensation)
	Altitude	To 10,000 feet
Storage Conditions	Temperature	-4 °F to +140 °F (-20 °C to +60 °C)
	Humidity	5% to 90% (no condensation)
	Altitude	To 40,000 feet
Dimensions	Physical(monitor)	448 mm (W) \times 454 mm (H) \times 415 mm (D) 17.6 " (W) \times 17.9 " (H) \times 16.3 " (D)
Weight	Net	20.5 kg (45.2 lbs)
Regulations		UL, CSA, TÜV / GS, CE, SEMKO, NEMKO, DEMKO, FIMKO, GOST-R, NOM, DHHS, HC, PTB Security CRT, FCC-B, IC-B, VCCI-B, BCIQ, C-Tick, TCO '99, MPR II, ENERGY STAR®, ISO9241-3, E2000
Others		
Power saving modes	<i>On</i>	<125 W typical (green LED)
	<i>DPMS™ Stand By</i>	< 10 W (orange LED)
	<i>DPMS Suspend</i>	< 10 W (orange LED)
	<i>DPMS Off</i>	< 3 W (orange LED)

Preset Timing Modes (The monitor has been pre-adjusted to **VESA® 1,280 \times 1,024 @ 85 Hz**)

VESA	640 \times	480 @ 60 Hz, 75 Hz	VESA	1,280 \times	1,024 @ 85 Hz
VESA	800 \times	600 @ 75 Hz	VESA	1,600 \times	1,200 @ 75 Hz
Macintosh®	832 \times	624 @ 75 Hz	Macintosh®	1,152 \times	870 @ 75 Hz
VESA	1,024 \times	768 @ 75 Hz			

^{*1} Macintosh computer requires ViewSonic® Macintosh adapter. To order an adapter, contact customer support. See the back cover of this manual. You will need to provide the serial number on your monitor.

^{*2} Warning: Do not set the graphics card in your computer to exceed these maximum refresh rates. Doing so may result in permanent damage to the monitor.

^{*3} Up to $1,600 \times 1,200$ for FCC class B.

Troubleshooting

No power

- Press Power button ON.
- Make sure that A / C power cord is securely connected to the back of the monitor and to a power outlet.
- Plug another electric device (like a radio) into power outlet to verify that outlet is supplying proper voltage.

Power on but no screen image

- Make sure that video cable provided for monitor is tightly secured to video output port on back of computer. If other end of video cable is not attached permanently to monitor, tightly secure it to monitor.
- Adjust the brightness and contrast.
- Check this user's guide to see if an adapter is required for proper signal continuity between graphics card and monitor.

Flickering

- Not enough power supplied. Connect monitor to a different outlet. If using surge protector, reduce number of devices plugged in.
- Check ViewMeter® to verify that the refresh rate (vertical frequency) is 75 Hz or higher. See the Specifications section.
- Make sure that graphics card in your computer can use non-interlaced mode at desired frequencies. To enable your graphics card to support higher refresh rates, try selecting fewer colors or running lower resolutions.
- Remove any devices from area around monitor that emit magnetic fields, such as radios, surge protectors, unshielded speakers, fluorescent lights, AC power converters, desk fans, etc.

Wrong or abnormal colors

- If any colors (red, green, or blue) are missing, check video cable to make sure that it is securely connected. Loose pins in the cable connector could cause a bad connection.
- Connect monitor to another computer.
- Turn monitor OFF, wait one minute, then turn ON again. *Do this only once.*
- If you have an older graphics card, contact customer support for a non-DDC adapter.

Entire screen image scrolls (rolls) vertically

- Make sure that video input signals are within monitor's specified frequency range.
- Try monitor with another power source, graphics card, or computer system.
- Connect video cable securely.

Control buttons do not work

- Press only one button at a time.

Cleaning the Monitor

- MAKE SURE THE MONITOR IS TURNED OFF.
- NEVER SPRAY OR POUR ANY LIQUID DIRECTLY ONTO THE SCREEN OR CASE.

To clean the screen

- 1 Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles.
- 2 If still not clean, apply a small amount of non-ammonia, non-alcohol based glass cleaner onto a clean, soft, lint-free cloth, and wipe the screen.

To clean the case

- 1 Use a soft, dry cloth.
- 2 If still not clean, apply a small amount of non-ammonia, non-alcohol based, mild non-abrasive detergent onto a clean, soft, lint-free cloth, then wipe the surface.

DISCLAIMER

ViewSonic does not recommend the use of any ammonia or alcohol-based cleaners on the monitor screen or case. Some chemical cleaners have been reported to damage the screen and / or case of the monitor. ViewSonic will not be liable for damage resulting from use of any ammonia or alcohol-based cleaners.

LIMITED WARRANTY VIEWSONIC PS790 MONITORS

What the warranty covers:

ViewSonic warrants its products to be free from defects in material and workmanship during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, **ViewSonic** will at its sole option repair or replace the product with a like product. Replacement product or parts may include manufactured or refurbished parts or components.

How long the warranty is effective:

The **ViewSonic PS790** color monitor, including the display tube, are warranted for three (3) years for all parts and three (3) years for all labor from the date of the first consumer purchase.

Who the warranty protects:

This warranty is valid only for the first consumer purchaser.

What the warranty does not cover:

1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
 - a. Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied for the product.
 - b. Repair or attempted repair by anyone not authorized by **ViewSonic**.
 - c. Any damage of the product due to shipment.
 - d. Removal or installation of the product.
 - e. Causes external to the product, such as electric power fluctuations or failure.
 - f. Use of supplies or parts not meeting **ViewSonic**'s specifications.
 - g. Normal wear and tear.
 - h. Any other cause which does not relate to a product defect.
3. Removal, installation, and set-up service charges.

How to get service:

1. For information on obtaining warranty service, call **ViewSonic**. The customer support telephone numbers are:
U.S. and Canada only: 1-800-688-6688; from outside the U.S. and Canada: 909-869-7976; from Europe +44 (1293)-643-900; from Asian/Pacific Rim countries 886 (2) 2248-4072. Internet E-Mail address: vstech@viewsonic.com or on the World Wide Web: <http://www.viewsonic.com>
2. To obtain warranty service, you will be required to provide (a) the original dated sales slip, (b) your name, (c) your address (d) a description of the problem and (e) the serial number of the product.
3. Take or ship the product prepaid in the original container to your **ViewSonic** dealer, any **ViewSonic** service center or **ViewSonic**.
4. For additional information or the name of the nearest **ViewSonic** service center, contact your **ViewSonic** dealer or **ViewSonic**.

Limitation of implied warranties:

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusion of damages:

VIEWSONIC'S LIABILITY IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. **VIEWSONIC** SHALL NOT BE LIABLE FOR:

1. DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THE PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, LOSS OF PROFITS, LOSS OF BUSINESS OPPORTUNITY, LOSS OF GOODWILL, INTERFERENCE WITH BUSINESS RELATIONSHIPS, OR OTHER COMMERCIAL LOSS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
2. ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE.
3. ANY CLAIM AGAINST THE CUSTOMER BY ANY OTHER PARTY.

Effect of state law:

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Sales outside the U.S.A.:

For **ViewSonic** products sold outside of the U.S.A., contact your **ViewSonic** dealer for warranty information and service.

REV 7/7/96

For **ViewSonic®** Customer Support:

U.S. and Canada only

1-800-688-6688